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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/851,576	05/10/2001	Yao-Ching Su	ADTP0033USA	3197

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EXAMINER

MACCHIAROLO, PETER J

ART UNIT

PAPER NUMBER

2875

DATE MAILED: 04/15/2003

8

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/851,576

Applicant(s)

SU ET AL.

Examiner

Peter J Macchiarolo

Art Unit

2875

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 March 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-19 and 21 is/are rejected.
- 7) ☐ Claim(s) 20 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Objections

1. Claims 2 and 7 are objected to because of the following informalities:
2. Claim 2 recites the term, "the second side." However, there is insufficient antecedent basis for this term in the claim. The Examiner is relying on the original Claim 1 to interpret this term.
3. Claim 7 depends from claim 21. The Examiner is interpreting this to be a typographical error of "claim 2". Appropriate correction is required.

Claim Rejections - 35 USC § 102

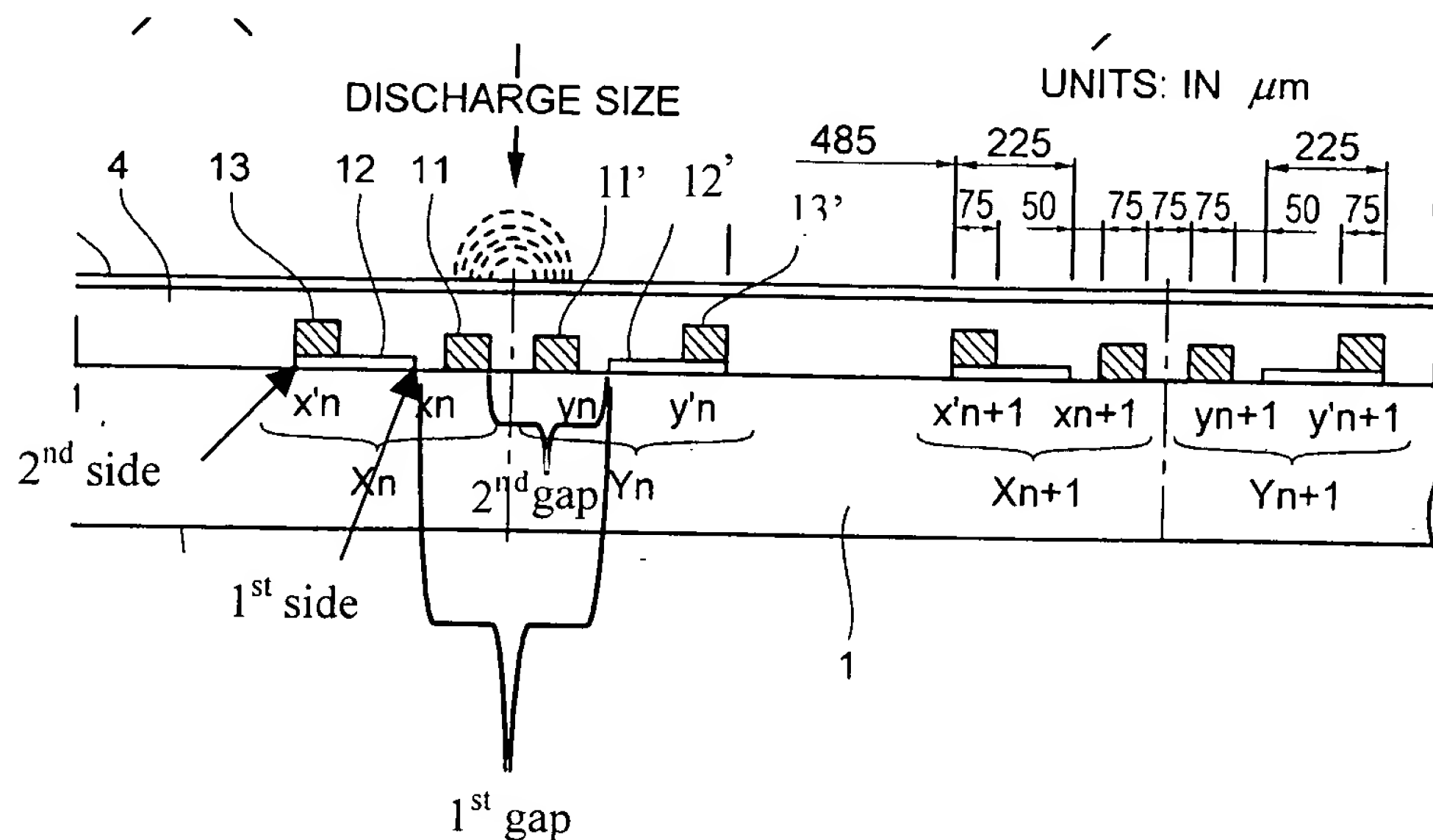
The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1, 9-12, 14-18, and 21 are rejected under 35 U.S.C. 102(b) as being anticipated by Nagano (USPN 6,031,329).
5. In regards to claims 1 and 9, the Examiner refers to reference numerals of Nagano's figure 1 as shown below. Nagano discloses in figure 1, an electrode structure of a plasma display panel with a first sustaining electrode (12) and a second sustaining electrode (12') set on the surface of the front substrate (1), and a first gap (shown below) existing between the first and second sustaining electrodes; a first auxiliary electrode (Xn) electrically connected to the first sustaining electrode, the first auxiliary electrode comprising a first part (11) and a second part

(13) adjacent to the first part, the first part formed in the first gap and the second part located above the first sustaining electrode; wherein a second gap (shown below) existing between the first part of the first auxiliary electrode and the second sustaining electrode, and the width of the second gap is smaller than the width of the first gap.



6. The Examiner notes that the discharge gap of Nagano exists between the two discharge electrodes, X_n and Y_n . Because the second auxiliary electrode (11') is electrically connected to the second sustaining electrode (12'), an electrical discharge will occur in the second gap.
7. In regards to claim 10, Nagano discloses all of the recited limitations of claim 9 (above).
8. Nagano further discloses that the first sustaining electrode comprises a first side approaching to the second sustaining electrode and a second side not contiguous to the end of the second sustaining electrode (12'), the first auxiliary electrode (X_n) comprises a first part (11) and

a second part (13), the first part being formed in the first gap, and the second part is located approaching to the second side of the first sustaining electrode.

9. In regards to claims 11-12, Nagano discloses all of the recited limitations of claim 10 (above).
10. Nagano further discloses that the first auxiliary electrode is formed above the first sustaining electrode, and the second part of the first auxiliary electrode is formed on the surface of the front substrate.
11. In regards to claims 14-15, Nagano discloses all of the recited limitations of claim 9 (above).
12. Nagano further discloses that the structure of claim 9 further comprises a third auxiliary electrode (11') located in the first gap, and a third gap existing between the third auxiliary electrode and the first sustaining electrode, wherein the width of the third gap is smaller than the width of the first gap. Nagano further discloses that the first auxiliary electrode (Xn) is electrically connected to the first sustaining electrode (12), and the third auxiliary electrode (yn) is electrically connected to the second sustaining electrode (12').
13. In regards to claims 16, Nagano discloses all of the recited limitations of claim 9 (above).
14. Nagano further discloses that the first sustaining electrode comprises a first side approaching to the second sustaining electrode, and a second side not contiguous to the end of

the second sustaining electrode, and the first auxiliary electrode is formed on the surface of the front substrate and adjacent to the first side of the first sustaining electrode.

15. In regards to claim 17, Nagano discloses in figure 1, an electrode structure of a plasma display panel with a first sustaining electrode (12) and a second sustaining electrode (12') set on the surface of the front substrate (1); a first auxiliary electrode (11) formed on the surface of the front substrate and parallel to the first sustaining electrode, a first gap existing between the first sustaining electrode and the first auxiliary electrode; and a second auxiliary electrode (11') formed on the surface of the front substrate and parallel to the first sustaining electrode, a second gap existing between the first sustaining electrode and the second auxiliary electrode and being used as a discharge gap of the electrode structure of the PDP, and the width of the second gap being smaller than the width of the first gap.

16. In regards to claim 18, Nagano discloses all of the recited limitations of claim 17 (above).

17. Nagano further discloses that the first sustaining electrode (12) comprises a first side approaching to the second sustaining electrode (12') and a second side not contiguous to the end of the second sustaining electrode, and the electrode structure comprises a third auxiliary electrode (13) adjacent to the second side of the first sustaining electrode.

18. In regards to claim 21, Nagano discloses all of the recited limitations of claim 1 (above).

19. Nagano further discloses that the first sustaining electrode has a first side approaching to the second sustaining electrode (12') and a second side not contiguous to the end of the second sustaining electrode.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

20. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

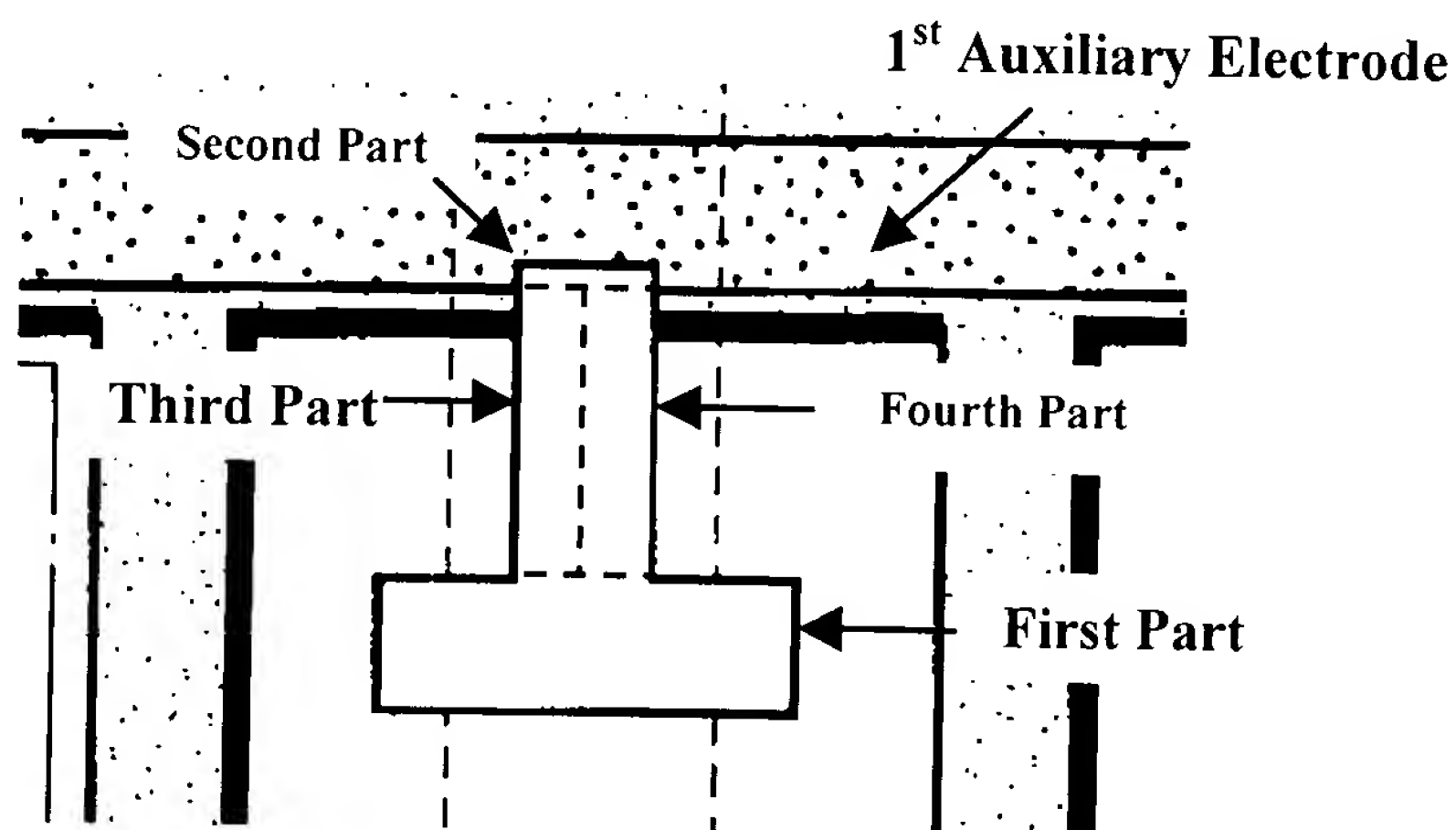
21. Claims 2-8 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nagano (USPN 6,031,329) in view of Koshio et al. (USPN 6,465,956; "Koshio").

22. In regard to claims 2-4, Nagano discloses all of the recited limitations of claim 1 (above).

23. Nagano is silent to the first auxiliary electrode further comprising a third part.

24. However, Koshio teaches in figure 1 that the first auxiliary electrode further comprises a third part (shown below) which is located on the first sustaining electrode, and approaches the second side of the first sustaining electrode. Koshio further teaches in figure 1 that the third part of the first auxiliary electrode is on the surface of the front substrate, and this configuration improves the fineness for a picture being displayed on the panel (column 2, lines 32-33).

25. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to construct the electrode structure of Nagano, including the third part on the first auxiliary electrode which approaches the second side of the first sustaining electrode, since Koshio teaches this configuration improves the fineness for a picture being displayed on the panel.



26. In regard to claims 5-6, Nagano and Koshio teach all of the recited limitations of claim 2 (above).

27. Koshio further teaches in figures 2 and 10 that a back substrate (fig. 2, 13) is parallel to the front substrate and a plurality of ribs (fig. 10, 35b) formed on the back substrate and parallel to each other, and the plurality of ribs are perpendicular to the first auxiliary electrode. Koshio further teaches in figures 2 and 10 that the first auxiliary electrode further comprises a fourth part parallel to the ribs, and this configuration improves the fineness for a picture being displayed on the panel (column 2, lines 32-33).

28. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to construct the electrode structure of Nagano, including a plurality of ribs formed on the back substrate and parallel to each other but perpendicular to the first auxiliary electrode, since Koshio teaches this configuration improves the fineness for a picture being displayed on the panel.

29. In regard to claims 7-8 and 13 Nagano and Koshio teach all of the recited limitations of claim 1 (above).

30. Nagano is silent to the second sustaining electrodes comprising a third side.

31. However, Koshio teaches in figure 2 that the second sustaining electrode comprises a third side (Yb') which is not contiguous to the first sustaining electrode, and the electrode structure also comprises a second auxiliary electrode (Ya) approaching to the third side of the second sustaining electrode. Koshio further teaches in column 7 lines 47-50 and 58-67 that the first and the second sustaining electrodes are defined and patterned by a first lithographic process, and the first auxiliary electrode is defined and patterned by a second lithographic

process. And this configuration improves the fineness for a picture being displayed on the panel (column 2, lines 32-33).

32. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to construct the electrode structure of Nagano, including a third side on the second sustaining electrode which is not contiguous to the first sustaining electrode, and the electrode structure also comprises a second auxiliary electrode approaching to the third side of the second sustaining electrode, since Koshio teaches this configuration improves the fineness for a picture being displayed on the panel.

33. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nagano (USPN 6,031,329).

34. In regards to claim 19, Nagano discloses all of the recited limitations of claim 18 (above).

35. Nagano is silent to a connecting electrode being formed between the first and the second auxiliary electrodes.

36. However, Nagano does teach in figure 1 that the auxiliary electrodes $x'n$ and xn are arranged to form a discharge electrode Xn , which indicates that xn comprises a connecting electrode being formed between the first (13) and the second (11) auxiliary electrodes. Further, it would be a simple matter of design choice of one skilled in the art to form the connecting electrode on the surface of the front substrate and perpendicular to the first auxiliary electrode since this structure is economical feasible.

37. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to construct the structure of Nagano, including a connecting electrode

being formed between the first and the second auxiliary electrodes on a surface of the substrate and perpendicular to the first auxiliary electrode, since one skilled in the art can imply this structure from Nagano as an economical feasible structure.

Conclusion

38. Claim 20 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

39. The following is a statement of reasons for the indication of allowable subject matter: Nagano discloses the structure of Claim 18 comprising a fourth auxiliary electrode (13') formed on the surface of the front substrate. However, the fourth auxiliary electrode is not formed between the first and the second auxiliary electrodes and a third gap existing between the fourth auxiliary electrode and the first sustaining electrode, is not smaller than the width of the first gap.

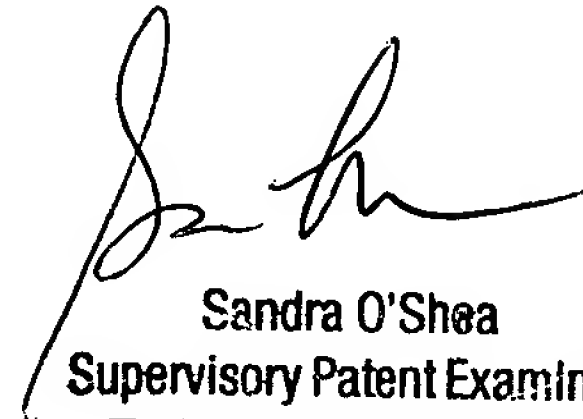
40. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Peter J Macchiarolo whose telephone number is (703) 305-7198. The examiner can normally be reached on 7.30 - 4:30, M-F.

41. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sandra O'Shea can be reached on (703) 305-4939. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9318 for regular communications and (703) 872-9319 for After Final communications.

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42. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

pjm
April 11, 2003



Sandra O'Shea
Supervisory Patent Examiner
Technology Center 2800